GenCore version 5.1.3

OM protein - protein search, using sw model

Run on: November 30, 2002, 12:33:53 ; Search time 12.5 Seconds
(without alignments)
3868.449 Million cell updates/sec

Title: US-10-025-514-16
Perfect score: 2675
Sequence: 1 MEDPQGDAAQKTDTSHHDQD.....RDLKCCMGMCGKSCVSPVKA 503

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 283224 seqs, 96134422 residues

Total number of hits satisfying chosen parameters: 283224

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : PIR_73:*
1: pir1:*
2: pir2:*
3: pir3:*
4: pir4:*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	2030	75.9	418	1	ITHU	alpha-1-antitrypsi
2	1894	70.8	409	1	ITBA	alpha-1-antitrypsi
3	1455.5	54.4	411	1	ITRT	alpha-1-antitrypsi
4	1455	54.4	416	1	ITSH	alpha-1-antitrypsi
5	1446.5	54.1	413	2	S60036	alpha-1-antitrypsi
6	1434	53.6	416	2	S21097	alpha-1-antitrypsi
7	1374	51.4	406	2	JX0346	alpha-1-antiprotei
8	1342	50.2	413	2	S54981	alpha-1-antiprotei
9	1338	50.0	413	2	JX0154	alpha-1-antiprotei
10	1335	49.9	413	2	I49470	alpha-1 proteinase
11	1334	49.9	402	2	I49471	alpha-1 proteinase
12	1333	49.8	413	2	I49452	alpha-1-antitrypsi
13	1329	49.7	413	2	I49472	alpha-1 proteinase
14	1325	49.5	413	2	JX0267	alpha-1-antiprotei
15	1316	49.2	413	2	I49473	alpha-1 proteinase
16	1310	49.0	413	2	I56481	alpha 1-proteinase
17	1307	48.9	413	2	A54968	alpha-1-antitrypsi
18	1302	48.7	413	2	I49474	alpha-1 proteinase
19	1295.5	48.4	412	1	ITMSC	alpha-1-antitrypsi
20	1293	48.3	405	2	A39088	alpha-1-antiprotei
21	1246	46.6	410	2	C39088	contrapsin precurs
22	1187.5	44.4	388	2	B39088	alpha-1-antiprotei
23	1158.5	43.3	410	2	A45457	alpha 1-proteinase
24	1140	42.6	420	2	A28882	alpha-1-antitrypsi
25	845	31.6	410	2	I50494	serine proteinase
26	829	31.0	418	2	JX0129	contrapsin precurs
27	829	31.0	433	1	ITHUC	alpha-1-antichymot
28	821.5	30.7	416	2	B29131	kallikrein-binding
29	818	30.6	418	2	S23675	contrapsin-related
30	816	30.5	406	2	A39339	protein C inhibito
31	816	30.5	406	2	I53281	corticosteroid-bin
32	816	30.5	427	2	A49518	kallistatin precur
33	815.5	30.5	405	2	A28321	corticosteroid-bin
34	811	30.3	383	2	A36117	corticosteroid-bin
35	810.5	30.3	418	2	JH0494	alpha-1-antichymot
36	810	30.3	408	2	S11320	serine proteinase
37	804	30.1	417	2	S19724	kallikrein-binding
38	803	30.0	403	2	S08102	serine proteinase
39	796	29.8	430	2	A49190	corticosteroid-bin
40	787.5	29.4	415	2	A47224	thyroxine-binding
41	786.5	29.4	412	2	I46421	thyroxine-binding
42	774.5	29.0	418	2	A39567	thyroxine-binding
43	771.5	28.8	418	1	S31507	serine proteinase
44	742	27.7	412	2	S31505	serine proteinase
45	739	27.6	372	2	I50492	alpha-1-antitrypsi

ALIGNMENTS

RESULT 1
ITHU
alpha-1-antitrypsin precursor [validated] - human
N;Alternate names: alpha-1-AT; alpha-1-proteinase inhibitor
C;Species: Homo sapiens (man)
C;Date: 30-Nov-1980 #sequence_revision 31-Mar-1992 #text_change 15-Sep-2000
C;Accession: A21853; B21853; A93352; A90944; A58528; A23174; A93281; A32336; S14476;
R;Long, G.L.; Chandra, T.; Woo, S.L.C.; Davie, E.W.; Kurachi, K.
Biochemistry 23, 4828-4837, 1984
A;Title: Complete sequence of the cDNA for human alpha-1-antitrypsin and the gene for
A;Reference number: A21853; MUID:85047190; PMID:6093867
A;Accession: A21853
A;Molecule type: mRNA
A;Residues: 1-418 <LON1>
A;Cross-references: GB:K02212; NID:g177830
A;Experimental source: M (normal) allele
A;Accession: B21853
A;Molecule type: DNA
A;Residues: 1-287,'V',289-418 <LON2>
A;Cross-references: GB:K02212; NID:g177830; PIDN:AAB59495.1; PID:g177831
A;Experimental source: S variant allele
R;Rosenberg, S.; Barr, P.J.; Najarian, R.C.; Hallewell, R.A.
Nature 312, 77-80, 1984
A;Title: Synthesis in yeast of a functional oxidation-resistant mutant of human alpha
A;Reference number: A93352; MUID:85036645; PMID:6387509
A;Accession: A93352
A;Molecule type: mRNA
A;Residues: 1-124,'H',126-325,'I',327-418 <ROS>
A;Cross-references: EMBL:X01683; NID:g28965
R;Bollen, A.; Herzog, A.; Cravador, A.; Herion, P.; Chuchana, P.; Vander Straten, A.;
DNA 2, 255-264, 1983
A;Title: Cloning and expression in Escherichia coli of full-length complementary DNA
A;Reference number: A90944; MUID:84107980; PMID:6319097
A;Accession: A90944
A;Molecule type: mRNA
A;Residues: 1-138,'DG',141-272,'N',274-418 <BOL>
A;Cross-references: GB:K01396; NID:g28965
A;Note: this sequence has been corrected in reference A58528
R;Colau, B.; Chuchana, P.; Bollen, A.
DNA 3, 327-330, 1984
A;Title: Revised sequence of full-length complementary DNA coding for human alpha-1-a
A;Reference number: A58528; MUID:85026667; PMID:6333329
A;Contents: corrections to sequence in A90944
A;Accession: A58528
A;Molecule type: mRNA
A;Residues: 1-418 <COL>
A;Cross-references: GB:K01396; NID:g28965; PIDN:CAA25838.1; PID:g28966
R;Ciliberto, G.; Dente, L.; Cortese, R.
Cell 41, 531-540, 1985
A;Title: Cell-specific expression of a transfected human alpha-1-antitrypsin gene.
A;Reference number: A23174; MUID:85176977; PMID:2985281
A;Accession: A23174

A;Molecule type: mRNA
A;Residues: 1-11,13-173,'H',175-228,'D',230-418 <CIL>
A;Cross-references: GB:M11465; NID:g177826; PIDN:AAA51546.1; PID:g177827
A;Note: the authors state that this sequence corresponds to the M (normal) allele; 3 var
R;Carrell, R.W.; Jeppsson, J.O.; Laurell, C.B.; Brennan, S.O.; Owen, M.C.; Vaughan, L.;
Nature 298, 329-334, 1982
A;Title: Structure and variation of human alpha-1-antitrypsin.
A;Reference number: A93281; MUID:82220135; PMID:7045697
A;Accession: A93281
A;Molecule type: protein
A;Residues: 25-418 <CAR>
A;Note: peptide sequence differences with A21853 (Leu-200 and the amidation states of re
R;Zhu, X.J.; Kang, S.S.; Hargrove, K.; Shochat, D.; Jarrells, M.; Mojesky, M.; Chan, S.K
Biochem. J. 246, 25-36, 1987
A;Title: The identification of epitopic sites in human alpha-1-proteinase inhibitor.
A;Reference number: A32336; MUID:88049621; PMID:2445337
A;Accession: A32336
A;Molecule type: protein
A;Residues: 25-418 <ZHU>
A;Note: peptides were sequenced or partially sequenced and ordered by comparison with A2
R;Weiland, K.L.; Falany, C.N.; Dooley, T.P.
submitted to the EMBL Data Library, December 1989
A;Description: Identification of a cDNA encoding a variant form of the human proteolytic
A;Reference number: S14476
A;Accession: S14476
A;Molecule type: mRNA
A;Residues: 142-230,'Y',232-338 <WEI>
A;Cross-references: EMBL:X17122; NID:g28636; PIDN:CAA34982.1; PID:g28637
A;Experimental source: a variant form
R;Riley, J.H.; Bathurst, I.C.; Edbrooke, M.R.; Carrell, R.W.; Craig, R.K.
FEBS Lett. 189, 361-366, 1985
A;Title: Alpha-1-antitrypsin and serum albumin mRNA accumulation in normal, acute phase
A;Reference number: A24013; MUID:86005469; PMID:3876243
A;Accession: A24013
A;Molecule type: mRNA
A;Residues: 292-418 <RIL>
A;Cross-references: EMBL:X02920; NID:g24437; PIDN:CAA26677.1; PID:g24438
R;Schulze, A.J.; Baumann, U.; Knof, S.; Jaeger, E.; Huber, R.; Laurell, C.B.
Eur. J. Biochem. 194, 51-56, 1990
A;Title: Structural transition of alpha(1)-antitrypsin by a peptide sequentially similar
A;Reference number: S13833; MUID:91071209; PMID:2253623
A;Accession: S13833
A;Molecule type: protein
A;Residues: 25-41 <SCH>
R;Niemann, M.A.; Narkates, A.J.; Miller, E.J.
Matrix 12, 233-241, 1992
A;Title: Isolation and serine protease inhibitory activity of the 44-residue, C-terminal
A;Reference number: S23516; MUID:93024095; PMID:1406456
A;Accession: S23516
A;Molecule type: protein
A;Residues: 375-409,'L',411-413,'S' <NIE>
R;Dengler, R.; Eger, G.; Lottspeich, F.; Plewan, A.; Ogilvie, A.; Emmerich, B.
Biol. Chem. Hoppe-Seyler 373, 581-588, 1992
A;Title: Proteolytic inactivation of alpha(1)-proteinase inhibitor in vivo: detection, c
A;Reference number: S23962; MUID:92384968; PMID:1515087
A;Accession: S23962
A;Molecule type: protein
A;Residues: 44-53;384-392 <DEN>
R;Dengler, R.; Lottspeich, F.; Oberthuer, W.; Mast, A.E.; Emmerich, B.
Biol. Chem. Hoppe-Seyler 376, 165-172, 1995
A;Title: Limited proteolysis of alpha(1)-proteinase inhibitor (alpha(1)-PI) in acute leu
A;Reference number: S55249; MUID:95336645; PMID:7612193
A;Accession: S55249
A;Molecule type: protein
A;Residues: 25-28;43-47;207-208;382-389;414-418 <DE2>
R;Leicht, M.; Long, G.L.; Chandra, T.; Kurachi, K.; Kidd, V.J.; Mace, M.
Nature 297, 655-659, 1982
A;Title: Sequence homology and structural comparison between the chromosomal human alpha
A;Reference number: I39371; MUID:82220035; PMID:6979715
A;Accession: I39371
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 1-67 <LEI1>
A;Cross-references: GB:J00064; NID:g177817; PIDN:AAB59369.1; PID:g177822
A;Accession: I39372
A;Status: translated from GB/EMBL/DDBJ
A;Molecule type: DNA
A;Residues: 196-225 <LEI2>
A;Cross-references: GB:J00066; NID:g177819; PIDN:AAB59370.1; PID:g177823
R;Chang, W.S.W.; Wardell, M.R.; Lomas, D.A.; Carrell, R.W.
Biochem. J. 314, 647-653, 1996
A;Title: Probing serpin reactive-loop conformations by proteolytic cleavage.
A;Reference number: S63599; MUID:96239126; PMID:8670081
A;Accession: S63599
A;Molecule type: protein
A;Residues: 371-385 <CHA>
R;Coutelle, C.; Speer, A.; Rogers, J.; Kalsheker, N.; Humphries, S.; Williamson, R.
Biomed. Biochim. Acta 44, 421-431, 1985
A;Title: Construction and partial characterization of a human liver cDNA library.
A;Reference number: I39370; MUID:85225507; PMID:3873938
A;Accession: I39370
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 387-399,'D',401-418 <COU>
A;Cross-references: GB:M26123; NID:g177815; PIDN:AAA51545.1; PID:g177816
R;Faber, J.P.; Weidinger, S.; Olek, K.
Am. J. Hum. Genet. 46, 1158-1162, 1990
A;Title: Sequence data of the rare deficient alpha-1-antitrypsin variant PI Zaugsburg
A;Reference number: A35338; MUID:90252805; PMID:2339709
A;Accession: A35338
A;Status: nucleic acid sequence not shown; not compared with conceptual translation
A;Molecule type: DNA
A;Residues: 122-124,'H',126-128;363-365,'K',367-369 <FAB>
A;Experimental source: mutant PI Zaugsberg
A;Note: this Z mutation with Lys-366 arose from the M2 variant with His-125
R;Loebermann, H.; Tokuoka, R.; Deisenhofer, J.; Huber, R.
submitted to the Brookhaven Protein Data Bank, September 1988
A;Reference number: A50775; PDB:7API
A;Contents: annotation; X-ray crystallography, 3.0 angstroms, tetragonal form 1, resi
R;Loebermann, H.; Tokuoka, R.; Deisenhofer, J.; Huber, R.
submitted to the Brookhaven Protein Data Bank, September 1988
A;Reference number: A50794; PDB:8API
A;Contents: annotation; X-ray crystallography, 3.1 angstroms, hexagonal form, residue
R;Loebermann, H.; Tokuoka, R.; Deisenhofer, J.; Huber, R.
submitted to the Brookhaven Protein Data Bank, September 1988
A;Reference number: A50810; PDB:9API
A;Contents: annotation; X-ray crystallography, 3.0 angstroms, tetragonal form 2, resi
R;Loebermann, H.; Tokuoka, R.; Deisenhofer, J.; Huber, R.
J. Mol. Biol. 177, 531-556, 1984
A;Title: Human alpha-1-proteinase inhibitor. Crystal structure analysis of two crysta
A;Reference number: A58525; MUID:84292309; PMID:6332197
A;Contents: annotation; X-ray crystallography, 3.0 angstroms
R;Carrell, R.W.; Jeppsson, J.O.; Vaughan, L.; Brennan, S.O.; Owen, M.C.; Boswell, D.R
FEBS Lett. 135, 301-303, 1981
A;Title: Human alpha-1-antitrypsin: carbohydrate attachment and sequence homology.
A;Reference number: A58526; MUID:82095611; PMID:6976274
A;Contents: annotation; carbohydrate attchment sites
C;Comment: The Z variant allele has Lys-366. Deficiency of the normal inhibitor in in
sis.
C;Genetics:
A;Gene: GDB:PI
A;Cross-references: GDB:120289; OMIM:107400
A;Map position: 14q32.1-14q32.1
A;Introns: 216/1; 306/2; 355/3
A;Note: the first intron occurs before the initiator codon
C;Function:
A;Description: inhibitor of serine proteinases, primarily leukocyte elastase and coll
A;Note: it also inhibits plasmin, thrombin, kallikrein, trypsin, and chymotrypsin
C;Superfamily: antithrombin III
C;Keywords: acute phase; emphysema; glycoprotein; plasma; polymorphism; serine protei
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-418/Product: alpha-1-antitrypsin #status experimental <MAT>
F;70,107,271/Binding site: carbohydrate (Asn) (covalent) #status experimental
F;382/Inhibitory site: Met (elastase, collagenase) #status experimental

Query Match 75.9%; Score 2030; DB 1; Length 418;

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  Best Local Similarity   100.0%;  Pred. No. 1.1e-124;
  Matches  394;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy       2 EDPQGDAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATA 61
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      25 EDPQGDAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATA 84

Qy      62 FAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFL 121
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db      85 FAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFL 144

Qy     122 SEGLKLVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDT 181
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     145 SEGLKLVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDT 204

Qy     182 VFALVNYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVL 241
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     205 VFALVNYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVL 264

Qy     242 LMKYLGNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLK 301
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     265 LMKYLGNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLK 324

Qy     302 SVLGQLGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSI 361
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     325 SVLGQLGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSI 384

Qy     362 PPEVKFNKPFVFLMIEQNTKSPLFMGKVVNPTQK 395
          |||||||||||||||||||||||||||||||||||
Db     385 PPEVKFNKPFVFLMIEQNTKSPLFMGKVVNPTQK 418


RESULT 2
ITBA
alpha-1-antitrypsin precursor - baboon (fragment)
N;Alternate names: alpha-1-proteinase inhibitor
C;Species: Papio sp. (baboon)
C;Date: 02-Apr-1982 #sequence_revision 02-Apr-1982 #text_change 18-Jun-1999
C;Accession: A01248
R;Kurachi, K.; Chandra, T.; Degen, S.J.F.; White, T.T.; Marchioro, T.L.; Woo, S.L.C.; Da
Proc. Natl. Acad. Sci. U.S.A. 78, 6826-6830, 1981
A;Title: Cloning and sequence of cDNA coding for alpha-1-antitrypsin.
A;Reference number: A01248; MUID:82082539; PMID:7031661
A;Accession: A01248
A;Molecule type: mRNA
A;Residues: 1-409 <KUR>
A;Cross-references: GB:J00321; NID:g176561; PIDN:AAA35377.1; PID:g176562
C;Comment: Alpha-1-antitrypsin is an inhibitor of serine proteinases. Its primary target
psin.
C;Superfamily: antithrombin III
C;Keywords: acute phase; glycoprotein; plasma; serine proteinase inhibitor
F;1-15/Domain: signal sequence (fragment) #status predicted <SIG>
F;16-409/Product: alpha-1-antitrypsin #status predicted <MAT>
F;61,98,262/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;373/Inhibitory site: Met (elastase, collagenase) #status predicted

  Query Match             70.8%;  Score 1894;  DB 1;  Length 409;
  Best Local Similarity   92.4%;  Pred. No. 7.3e-116;
  Matches  364;  Conservative   19;  Mismatches   11;  Indels    0;  Gaps    0;

Qy       2 EDPQGDAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATA 61
          |||||||||||||  |||:||| |||||:|||||||||||||||||||||||||||||||||
Db      16 EDPQGDAAQKTDTPPHDQNHPTLNKITPSLAEFAFSLYRQLAHQSNSTNIFFSPVSIATA 75

Qy      62 FAMLSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFL 121
          |||||||||||||  ||||||||||||||||:||||||||||:||||||||||||||||||
Db      76 FAMLSLGTKADTHSEILEGLNFNLTEIPEAQVHEGFQELLRTLNKPDSQLQLTTGNGLFL 135

Qy     122 SEGLKLVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDT 181
          :: ||:|||||||| |||||||:||| ||||||||||:|||||||:||||||||||||||||
Db     136 NKSLKVVDKFLEDVKNLYHSEAFSVNFEDTEEAKKQINNYVEKGTQGKVVDLVKELDRDT 195

Qy     182 VFALVNYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVL 241
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     196 VFALVNYIFFKGKWERPFEVEATEEEDFHVDQATTVKVPMMRRLGMFNIYHCEKLSSWVL 255

Qy     242 LMKYLGNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLK 301
          ||||||||||||||||||||||||||||||||||||||||:||||:||||||:||||||||
Db     256 LMKYLGNATAIFFLPDEGKLQHLENELTHDIITKFLENENRRSANLHLPKLAITGTYDLK 315

Qy     302 SVLGQLGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSI 361
          :||| |||||||||||||||:|||||||||||||||||||||||||||||||||||||||||
Db     316 TVLGHLGITKVFSNGADLSGVTEDAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSI 375

Qy     362 PPEVKFNKPFVFLMIEQNTKSPLFMGKVVNPTQK 395
          |||||||||||||||||||||:|||||||||
Db     376 PPEVKFNKPFVFLMIEQNTKSPLFIGKVVNPTQK 409


RESULT 3
ITRT
alpha-1-antitrypsin precursor - rat
N;Alternate names: alpha-1-proteinase inhibitor
C;Species: Rattus norvegicus (Norway rat)
C;Date: 31-Mar-1992 #sequence_revision 31-Dec-1993 #text_change 16-Jun-2000
C;Accession: A33892; B33892; S08016; JX0123; A38823
R;Chao, S.; Chai, K.X.; Chao, L.; Chao, J.
Biochemistry 29, 323-329, 1990
A;Title: Molecular cloning and primary structure of rat alpha-1-antitrypsin.
A;Reference number: A33892; MUID:90148955; PMID:2302382
A;Accession: A33892
A;Molecule type: mRNA
A;Residues: 4-411 <CHA>
A;Cross-references: GB:M32247; NID:g203062; PIDN:AAA40788.1; PID:g203063
A;Accession: B33892
A;Molecule type: protein
A;Residues: 25-57 <CH2>
R;Flink, I.L.; Bailey, T.; Morkin, E.
submitted to the EMBL Data Library, August 1989
A;Reference number: S08016
A;Accession: S08016
A;Molecule type: mRNA
A;Residues: 188-246,'I',248-321,'D',323-389 <FLI>
A;Cross-references: EMBL:X16273; NID:g57299; PIDN:CAA34349.1; PID:g930263
R;Misumi, Y.; Sohda, M.; Ohkubo, K.; Takami, N.; Oda, K.; Ikehara, Y.
J. Biochem. 108, 230-234, 1990
A;Title: Molecular cloning and sequencing of the cDNA of rat alpha-1-protease inhibit
A;Reference number: JX0123; MUID:91035351; PMID:2229024
A;Accession: JX0123
A;Molecule type: mRNA
A;Residues: 1-13,'G',15-83,'V',85-247,'Y',249-317,'N',319-411 <MIS>
A;Cross-references: GB:D00675; NID:g220648; PIDN:BAA00579.1; PID:g220649
A;Experimental source: serum
A;Accession: A38823
A;Molecule type: protein
A;Residues: 25-45 <MI2>
C;Comment: Alpha-1-antitrypsin is an inhibitor of serine proteinases. Its primary tar
psin.
C;Superfamily: antithrombin III
C;Keywords: acute phase; glycoprotein; plasma; serine proteinase inhibitor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-411/Product: alpha-1-antitrypsin #status experimental <MAT>
F;64,101,265/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;376/Inhibitory site: Met (elastase, collagenase) #status predicted

  Query Match             54.4%;  Score 1455.5;  DB 1;  Length 411;
  Best Local Similarity   70.2%;  Pred. No. 2.6e-87;
  Matches  271;  Conservative   63;  Mismatches   51;  Indels    1;  Gaps    1;

Qy       9 AQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLG 68
          ||:|||  ||  ||: ||: |||:|||||||:| ||||::||||||:|| |||||||||
Db      27 AQETDTSQQDQS-PTYRKISSNLADFAFSLYRELVHQSNTSNIFFSPMSITTAFAMLSLG 85

Qy      69 TKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLV 128
          :| ||  :|||| ||||:|||| ||: |  ||:|||:|||:||| |||||::: ||||
Db      86 SKGDTRKQILEGLEFNLTQIPEADIHKAFHHLLQTLNRPDSELQLNTGNGLFVNKNLKLV 145
```

```
Qy    129 DKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNY 188
          :||||:||  ||||||:||| |:||||| ||||||||||||||||:|:|| ||||||||
Db    146 EKFLEEVKNNYHSEAFSVNFADSEEAKKVINDYVEKGTQGKIVDLMKQLDEDTVFALVNY 205

Qy    189 IFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGN 248
          |||||||:|||  : | : |||||: |||||||| |||||:: :|  ||||||:| ||||
Db    206 IFFKGKWKRPFNPEHTRDADFHVDKSTTVKVPMMNRLGMFDMHYCSTLSSWVLMMDYLGN 265

Qy    249 ATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLG 308
          ||||| |||:||:|||| || |:|::|| |   ||| |: ||||||:|||:||::|  ||
Db    266 ATAIFLLPDDGKMQHLEQTLTKDLISRFLLNRQTRSAILYFPKLSISGTYNLKTLLSSLG 325

Qy    309 ITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
          ||:||:| |||||:||:||||||:||||||||:||:|||||||  :||:|||:||:|||:
Db    326 ITRVFNNDADLSGITEDAPLKLSQAVHKAVLTLDERGTEAAGATVVEAVPMSLPPQVKFD 385

Qy    369 KPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           ||:|:::|  |:||||:|||::||:
Db    386 HPFIFMIVESETQSPLFVGKVIDPTR 411


RESULT 4
ITSH
alpha-1-antitrypsin precursor - sheep
N;Alternate names: alpha-1-proteinase inhibitor
C;Species: Ovis orientalis aries, Ovis ammon aries (domestic sheep)
C;Date: 31-Mar-1992 #sequence_revision 31-Mar-1992 #text_change 18-Jun-1999
C;Accession: S05312
R;Brown, W.M.; Dziegielewska, K.M.; Foreman, R.C.; Saunders, N.R.; Wu, Y.
Nucleic Acids Res. 17, 6398, 1989
A;Title: Nucleotide and deduced amino acid sequence of sheep alpha-1 antitrypsin.
A;Reference number: S05312; MUID:89366677; PMID:2788872
A;Accession: S05312
A;Molecule type: mRNA
A;Residues: 1-416 <BRO>
A;Cross-references: EMBL:X15555; NID:g1369; PIDN:CAA33561.1; PID:g1370
A;Note: the authors translated the codon ATC for residue 395 as Ala
C;Comment: Alpha-1-antitrypsin is an inhibitor of serine proteinases. Its primary target
psin.
C;Superfamily: antithrombin III
C;Keywords: acute phase; glycoprotein; plasma; serine proteinase inhibitor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-416/Product: alpha-1-antitrypsin #status predicted <MAT>
F;68,105,269/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;380/Inhibitory site: Met (elastase, collagenase) #status predicted

  Query Match             54.4%;  Score 1455;  DB 1;  Length 416;
  Best Local Similarity   70.5%;  Pred. No. 2.9e-87;
  Matches  275;  Conservative   59;  Mismatches   54;  Indels    2;  Gaps    1;

Qy      5 QGDAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAM 64
          || | |:|| : | :     :|| |||| ||||:| :|||||::|||||||||:|||
Db     28 QGHAVQETDDTAHQE--AACHKIAPNLANFAFSIYHKLAHQSNTSNIFFSPVSIASAFAM 85

Qy     65 LSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEG 124
          |||| | :|| |||||| ||||: ||:||:||| || ||||| ||||||||||::|
Db     86 LSLGAKGNTHTEILEGLGFNLTELAEAEIHKGFQHLLHTLNQPNHQLQLTTGNGLFINES 145

Qy    125 LKLVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFA 184
           |||| |||||| |:||:||::|| | |||||:|||||||: |||||||:||:|||||
Db    146 AKLVDTFLEDVKNLHHSKAFSINFRDAEEAKKKINDYVEKGSHGKIVDLVKDLDQDTVFA 205

Qy    185 LVNYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMK 244
          ||||| |||||:|||| | | |||:: |||||||| |||||:: :| ||:||||||
Db    206 LVNYISFKGKWEKPFEVEHTTERDFHVNEQTTVKVPMMNRLGMFDLHYCDKLASWVLLLD 265

Qy    245 YLGNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVL 304
          |:|| || | ||| |||| ||::| :::: |||| :   ||:||||||: |||||:||
Db    266 YVGNVTACFILPDLGKLQQLEDKLNNELLAKFLEKKYASSANLHLPKLSISETYDLKTVL 325

Qy    305 GQLGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPE 364
          |:||| :|||||||||:||| || :|||:||| |||||||||||| ||||||||:||:
Db    326 GELGINRVFSNGADLSGITEEQPLMVSKALHKAALTIDEKGTEAAGATFLEAIPMSLPPD 385

Qy    365 VKFNKPFVFLMIEQNTKSPLFMGKVVNPTQ 394
          |:|||:||: :: ::|||||||:||||||||
Db    386 VEFNRPFLCILYDRNTKSPLFVGKVVNPTQ 415


RESULT 5
S60036
alpha-1-antitrypsin precursor - golden hamster
N;Alternate names: alpha-1-antiproteinase
C;Species: Mesocricetus auratus (golden hamster)
C;Date: 24-Aug-1996 #sequence_revision 13-Mar-1997 #text_change 20-Jun-2000
C;Accession: S60036
R;Nakatani, T.; Suzuki, Y.; Yoshida, K.; Sinohara, H.
Biochim. Biophys. Acta 1263, 245-248, 1995
A;Title: Molecular cloning and sequence analysis of cDNA encoding plasma alpha-1-anti
A;Reference number: S60036; MUID:96004896; PMID:7548212
A;Accession: S60036
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-413 <NAK>
A;Cross-references: EMBL:D49709; NID:g1088432; PIDN:BAA08557.1; PID:g1794155
A;Note: the source is designated as Syrian hamster
C;Superfamily: antithrombin III
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-413/Product: alpha-1-antitrypsin #status predicted <MAT>

  Query Match             54.1%;  Score 1446.5;  DB 2;  Length 413;
  Best Local Similarity   70.8%;  Pred. No. 1e-86;
  Matches  274;  Conservative   54;  Mismatches   58;  Indels    1;  Gaps    1;

Qy      9 AQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLG 68
          ||:|| |  ||:|    || ||||:|:|:|||:| ||||:||||||||||||||||||
Db     27 AQETDASKQDQEHQACCKIAPNLADFSFNLYRELVHQSNTTNIFFSPVSIATAFAMLSLG 86

Qy     69 TKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLV 128
          ||  || :||||| |||||| ||::|:||  ||:| |:|||::|||||||||:   ||||
Db     87 TKGVTHTQILEGLGFNLTEIAEAEVHKGFHNLLQTFNRPDNELQLTTGNGLFIHNNLKLV 146

Qy    129 DKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNY 188
          |||||:||  ||||||:||| |:||||| || :|||||||||||||:||:||| |||||
Db    147 DKFLEEVKNDYHSEAFSVNFTDSEEAKKVINGFVEKGTQGKIVDLVKDLDKDTVLALVNY 206

Qy    189 IFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGN 248
          |||||||::||:  :||| |||||: |||||||| |||||:: :   |||||||| ||||
Db    207 IFFKGKWKKPFDADNTEEADFHVDKTTTVKVPMMSRLGMFDVHYVSTLSSWVLLMDYLGN 266

Qy    249 ATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLG 308
          ||||| |||:||:||||  |  :|| |||::   |||::| |||||:|||:||: |  ||
Db    267 ATAIFILPDDGKMQHLEQTLNKEIIGKFLKDRHTRSANVHFPKLSISGTYNLKTALDPLG 326

Qy    309 ITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
          ||:||||||||||:||: |||| ||||||||||||:||||||| |:| ||||:|||| ||
Db    327 ITQVFSNGADLSGITEDVPLKLGKAVHKAVLTIDERGTEAAGATFMEIIPMSVPPEVNFN 386

Qy    369 KPFVFLMIEQNT-KSPLFMGKVVNPTQ 394
           ||: :: :: | |||||:||||:||:
Db    387 SPFIAIIYDRQTAKSPLFVGKVVDPTR 413


RESULT 6
S21097
alpha-1-antitrypsin precursor - bovine
N;Alternate names: alpha-1-proteinase inhibitor; proteinase inhibitor Inh3
C;Species: Bos primigenius taurus (cattle)
C;Date: 07-Apr-1994 #sequence_revision 19-May-1994 #text_change 16-Jul-1999
C;Accession: S21097; PC2040; S18920
R;Sinha, D.; Bakhshi, M.R.; Kirby, E.P.
Biochim. Biophys. Acta 1130, 209-212, 1992
A;Title: Complete cDNA sequence of bovine alpha1-antitrypsin.
A;Reference number: S21097; MUID:92223096; PMID:1562597
A;Accession: S21097
```

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A;Molecule type: mRNA
A;Residues: 1-416 <SIN>
A;Cross-references: EMBL:X63129; NID:g41; PIDN:CAA44840.1; PID:g42
A;Note: the sequence from Fig. 2 is inconsistent with that from Fig. 1 in having 209-Thr
R;Sinha, D.; Yang, X.; Emig, F.; Kirby, E.P.
J. Biochem. 115, 387-391, 1994
A;Title: Isolation and characterization of two protease inhibitors from bovine plasma.
A;Reference number: PX0072; MUID:94334275; PMID:8056747
A;Accession: PC2040
A;Molecule type: protein
A;Residues: 25-44 <SI2>
C;Superfamily: antithrombin III
C;Keywords: acute phase; glycoprotein; plasma; serine proteinase inhibitor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-416/Product: alpha-1-antitrypsin #status predicted <MAT>
F;68,105,143,269/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             53.6%;  Score 1434;  DB 2;  Length 416;
  Best Local Similarity   69.7%;  Pred. No. 6.7e-86;
  Matches  272;  Conservative   58;  Mismatches   58;  Indels    2;  Gaps    1;

Qy       5 QGDAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAM 64
           || | |:|| : | :     :|| |||| ||||:|  |||||::||||||||||:|||| 
Db      28 QGHAVQETDDTSHQE--AACHKIAPNLANFAFSIYHHLAHQSNTSNIFFSPVSIASAFAM 85

Qy      65 LSLGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEG 124
           |||| | :|| |||:|| ||||: ||:||:||| || |||||: ||||||||||::| 
Db      86 LSLGAKGNTHTEILKGLGFNLTELAEAEIHKGFQHLLHTLNQPNHQLQLTTGNGLFINES 145

Qy     125 LKLVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFA 184
            |||| |||||| |||||||::|| | ||||||:|||||||| ||||:||| || :|||| 
Db     146 AKLVDTFLEDVKNLYHSEAFSINFRDAEEAKKKINDYVEKGSHGKIVELVKVLDPNTVFA 205

Qy     185 LVNYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMK 244
           ||||| ||||||:|||:| | | ||||| |||||||| |||||:: :| ||:|||||: 
Db     206 LVNYISFKGKWEKPFEMKHTTERDFHVDEQTTVKVPMMNRLGMFDLHYCDKLASWVLLLD 265

Qy     245 YLGNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVL 304
           |:|| || | ||| |||| ||:|| :::: |||| :   ||:||||||||: |||||||| 
Db     266 YVGNVTACFILPDLGKLQQLEDKLNNELLAKFLEKKYASSANLHLPKLSISETYDLKSVL 325

Qy     305 GQLGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPE 364
           | :|||:||| |||||:|:| |||:|||:||| |||||||||| |: ||||||||:||: 
Db     326 GDVGITEVFSDRADLSGITKEQPLKVSKALHKAALTIDEKGTEAVGSTFLEAIPMSLPPD 385

Qy     365 VKFNKPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           |:|||:||: :: ::|||||||:||||||| 
Db     386 VEFNRPFLCILYDRNTKSPLFVGKVVNPTQ 415


RESULT 7
JX0346
alpha-1-antiproteinase precursor - Mongolian jird
C;Species: Meriones unguiculatus (Mongolian jird)
C;Date: 22-Apr-1995 #sequence_revision 26-May-1995 #text_change 28-May-1999
C;Accession: JX0346; PC2357
R;Goto, K.; Suzuki, Y.; Yoshida, K.; Yamamoto, K.; Sinohara, H.
J. Biochem. 116, 582-588, 1994
A;Title: Plasma alpha-1-antiproteinase from the Mongolian gerbil, Meriones unguiculatus:
A;Reference number: JX0346; MUID:95155268; PMID:7852275
A;Accession: JX0346
A;Molecule type: mRNA
A;Residues: 1-406 <GOT>
A;Cross-references: GB:S77822; NID:g998663; PIDN:AAB33367.1; PID:g998664
A;Accession: PC2357
A;Molecule type: protein
A;Residues: 25-44;77-96 <GO2>
A;Experimental source: plasma
C;Superfamily: antithrombin III
C;Keywords: glycoprotein
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-406/Product: alpha-1-antiproteinase #status predicted <MAT>
F;383-387/Region: serpin binding #status predicted
F;59,96,134,260,403/Binding site: carbohydrate (Asn) (covalent) #status predicted
F;371/Inhibitory site: Met (trypsin, chymotrypsin, elastase) #status predicted

  Query Match             51.4%;  Score 1374;  DB 2;  Length 406;
  Best Local Similarity   68.7%;  Pred. No. 5.2e-82;
  Matches  265;  Conservative   56;  Mismatches   59;  Indels    6;  Gaps    2;

Qy       9 AQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLG 68
           |:|||:||  |||     :  |||:||| ||| |:||||:|||| ||:|||||  |||||
Db      27 AEKTDSSH--QDH----IMASNLADFAFGLYRVLSHQSNTTNIFLSPLSIATALAMLSLG 80

Qy      69 TKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLV 128
           :| ||  ::|:||:|||||  || ||:||| ||:|||:||::|||||: ||::  | ||
Db      81 SKDDTKAQLLQGLHFNLTETSEADIHKGFQHLLKTLNRPDNELQLTTGSSLFVNNSLNLV 140

Qy     129 DKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNY 188
           :||||:||  |||||| ||| |:||||| || :||| | |||||||:|: ||| |||||
Db     141 EKFLEEVKNHYHSEAFFVNFADSEEAKKTINSFVEKATHGKIVDLVKDLEIDTVLALVNY 200

Qy     189 IFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGN 248
           |||:||||:||: : ||| |||||: |||||||| |:|||:: :|  |||||||| ||||
Db     201 IFFRGKWEKPFDPELTEEADFHVDKSTTVKVPMMNRMGMFDVHYCDTLSSWVLLMDYLGN 260

Qy     249 ATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLG 308
           ||||| |||||:|||| || : | |||:|   |||::|||||||:|||:|| ||  ||
Db     261 ATAIFILPDEGKMQHLEQTLTKEHIYKFLQNRHTRSANVHLPKLSISGTYNLKKVLSPLG 320

Qy     309 ITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
           ||:|||||||||:| : |||||||||||||:||:||||||   |||:||||||:| |
Db     321 ITQVFSNGADLSGITTDVPLKLSKAVHKAVLTLDERGTEAAGTTVLEAVPMSIPPDVCFK 380

Qy     369 KPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           ||| :: :::|:|||||:||||||||
Db     381 NPFVVIICDKHTQSPLFVGKVVNPTQ 406


RESULT 8
S54981
alpha-1-antiproteinase isoform E precursor - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 28-Oct-1996 #sequence_revision 07-Feb-1997 #text_change 20-Jun-2000
C;Accession: S54981; S72199
R;Saito, A.; Sinohara, H.
Biochem. J. 307, 369-375, 1995
A;Title: Rabbit alpha-1-antiproteinase E: a novel recombinant serpin which does not i
A;Reference number: S54981; MUID:95251597; PMID:7733871
A;Accession: S54981
A;Molecule type: mRNA
A;Residues: 1-413 <SAI1>
A;Cross-references: EMBL:D17725; NID:g1008927; PIDN:BAA04579.1; PID:g1008928
A;Accession: S72199
A;Molecule type: protein
A;Residues: 25-33;374-387 <SAI2>
C;Superfamily: antithrombin III
C;Keywords: acute phase; emphysema; glycoprotein; plasma; serine proteinase inhibitor
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-413/Product: alpha-1-antiproteinase E #status experimental <MAT>

  Query Match             50.2%;  Score 1342;  DB 2;  Length 413;
  Best Local Similarity   65.5%;  Pred. No. 6.5e-80;
  Matches  254;  Conservative   59;  Mismatches   75;  Indels    0;  Gaps    0;

Qy       7 DAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLS 66
           | ||:|  | |:|||  ::| |:||||| ||||::||:||:|||||||||| ||||||
Db      25 DEAQETAVSSHEQDHPACHRIAPSLAEFALSLYREVAHESNTTNIFFSPVSIALAFAMLS 84

Qy      67 LGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLK 126
           || | ||| ::|||| |||||  |||||:||: || |:|:|||:|||  || | : | ||
Db      85 LGAKGDTHTQVLEGLKFNLTETAEAQIHDGFRHLLHTVNRPDSELQLAAGNALVVHENLK 144

Qy     127 LVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALV 186
           |  ||||| | || |||| |:| | |:|| :|| :|||||:|||||||:|||  |: |||
Db     145 LQHKFLEDAKNLYQSEAFLVDFRDPEQAKTKINSHVEKGTRGKIVDLVQELDARTLLALV 204
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Qy    187 NYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYL 246
          ||:|||||||:||| ::|:|||||||  |||:|||| ||||: : ||  |:| || | |
Db    205 NYVFFKGKWEKPFEPENTKEEDFHVDATTTVRVPMMSRLGMYVMFHCSTLASTVLRMDYK 264

Qy    247 GNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQ 306
          |||||:| |||||||||||: || ::| |||     || ::  |||||:|||||| :||:
Db    265 GNATALFLLPDEGKLQHLEDTLTTELIAKFLAKSSLRSVTVRFPKLSISGTYDLKPLLGK 324

Qy    307 LGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVK 366
          ||||:|||| |||||:||: |||:|:|:|||||||||:||||||| |:| || |:|  :
Db    325 LGITQVFSNNADLSGITEQEPLKVSQALHKAVLTIDERGTEAAGASFVELIPESVPDSIT 384

Qy    367 FNKPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           ::||:|::     |||||:||||:|||
Db    385 LDRPFLFVIYSHEIKSPLFVGKVVDPTQ 412


RESULT 9
JX0154
alpha-1-antiproteinase F - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 04-Sep-1998 #sequence_revision 04-Sep-1998 #text_change 21-Jul-2000
C;Accession: JX0154
R;Saito, A.; Sinohara, H.
J. Biochem. 109, 158-162, 1991
A;Title: Cloning and sequencing of cDNA coding for rabbit alpha-1-antiproteinase F: amin
A;Reference number: JX0154; MUID:91201273; PMID:2016265
A;Accession: JX0154
A;Status: preliminary
A;Molecule type: mRNA
A;Residues: 1-413 <SAI>
A;Cross-references: GB:X57710; NID:g1455; PIDN:CAA40881.1; PID:g1456
C;Superfamily: antithrombin III

  Query Match             50.0%;  Score 1338;  DB 2;  Length 413;
  Best Local Similarity   64.9%;  Pred. No. 1.2e-79;
  Matches  252;  Conservative   62;  Mismatches   74;  Indels    0;  Gaps    0;

Qy      7 DAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLS 66
          | ||:|  | |:|||| ::| |:||||| ||||::||:||:|||||||||| ||||||
Db     25 DEAQETAVSSHEQDHPACHRIAPSLAEFALSLYREVAHESNTTNIFFSPVSIALAFAMLS 84

Qy     67 LGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLK 126
          || | ||| ::|||| ||||| ||||:||: || |:|:|||:||   | | : | ||
Db     85 LGAKGDTHTQVLEGLKFNLTETAEAQIHDGFRHLLHTVNRPDSELQLAARNALVVHENLK 144

Qy    127 LVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALV 186
          |  ||||| | || |||| |:| | |:|| :|| :|||||:|||||||:|||  |: |||
Db    145 LQHKFLEDAKNLYQSEAFLVDFRDPEQAKTKINSHVEKGTRGKIVDLVQELDARTLLALV 204

Qy    187 NYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYL 246
          ||:||||||||:||| ::|:||||||:  |||:|||| ||| ::: ||  |:| || | |
Db    205 NYVFFKGKWEKPFEPENTKEEDFHVNATTTVRVPMMSRLGRYDLFHCSTLASTVLRMDYK 264

Qy    247 GNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQ 306
          |||||:| |||||||||||: || ::|||||     || ::| |||||:|||||| :||:
Db    265 GNATALFLLPDEGKLQHLEDTLTTELITKFLAKSSLRSVTVHFPKLSISGTYDLKPLLGK 324

Qy    307 LGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVK 366
          ||||:|||: |||||:||: ||| |:|:||||||||:||||||| ::| ||||:|  :
Db    325 LGITQVFSDNADLSGITEQEPLKASQALHKAVLTIDERGTEAAGATYMEIIPMSLPDSIT 384

Qy    367 FNKPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           ::||:|::     |||||:||||:|||
Db    385 LDRPFLFVIYSHEIKSPLFVGKVVDPTQ 412


RESULT 10
I49470
alpha-1 proteinase inhibitor 1 - mouse
N;Alternate names: alpha-1-antitrypsin
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999
C;Accession: I49470; A25495
R;Borriello, F.; Krauter, K.S.
Proc. Natl. Acad. Sci. U.S.A. 88, 9417-9421, 1991
A;Title: Multiple murine alpha 1-protease inhibitor genes show unusual evolutionary d
A;Reference number: I49470; MUID:92052104; PMID:1946354
A;Accession: I49470
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-413 <RES>
A;Cross-references: GB:M75721; NID:g191841; PIDN:AAC28869.1; PID:g191842
R;Krauter, K.S.; Citron, B.A.; Hsu, M.T.; Powell, D.; Darnell Jr., J.E.
DNA 5, 29-36, 1986
A;Title: Isolation and characterization of the alpha-1-antitrypsin gene of mice.
A;Reference number: A25495; MUID:86163765; PMID:3007061
A;Accession: A25495
A;Molecule type: mRNA
A;Residues: 211-245,'D',247-322,'L',324-403,'V',405-413 <KRA>
A;Cross-references: GB:M12586; NID:g192092; PIDN:AAA51624.1; PID:g192094
C;Genetics:
A;Gene: alpha-1 PI-1
C;Superfamily: antithrombin III

  Query Match             49.9%;  Score 1335;  DB 2;  Length 413;
  Best Local Similarity   64.3%;  Pred. No. 1.8e-79;
  Matches  249;  Conservative   70;  Mismatches   66;  Indels    2;  Gaps    2;

Qy     10 QKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLGT 69
          |:|||| || | ::| || :|| ||||:| ||||::||||||||||||||||||||:
Db     28 QETDTSQKDQS-PASHEIATNLGDFAISLYRELVHQSNTSNIFFSPVSIATAFAMLSLGS 86

Qy     70 KADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLVD 129
          | ||| :||||| ||||:  || ||: || ||:|||:|||:|||:||||||::  ||||:
Db     87 KGDTHTQILEGLQFNLTQTSEADIHKSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVE 146

Qy    130 KFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNYI 189
          |||||: |  | :| |:||| ::|||||| |||:|||||||| : ||:||:|||||| |||
Db    147 KFLEEAKNHYQAEVFSVNFAESEEAKKVINDFVEKGTQGKIAEAVKKLDQDTVFALANYI 206

Qy    190 FFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGNA 249
          |||||::||: ::||| :||||: ||||||||   || :: ||  |||||||| | |||
Db    207 LFKGKWKKPFDPENTEEAEFHVDESTTVKVPMMTLSGMLHVHHCSTLSSWVLLMDYAGNA 266

Qy    250 TAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLGI 309
          ||:| |||:||:|||| |: ::|:||| |  || | :| |:|||:| |:||:::  |||
Db    267 TAVFLLPDDGKMQHLEQTLSKELISKFLLNRRRRLAQIHFPRLSISGEYNLKTLMSPLGI 326

Qy    310 TKVFSNGADLSGVTEE-APLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
          |::|:|||||||:||| |||||:|||||||||| |||||    |: :|||:|| ::|:
Db    327 TRIFNNGADLSGITEENAPLKLSQAVHKAVLTIDETGTEAAAVTVLQMVPMSMPPILRFD 386

Qy    369 KPFVFLMIEQNTKSPLFMGKVVNPTQK 395
           ||:|:: |::|:||:|:|||||:|| |
Db    387 HPFLFIIFEEHTQSPIFLGKVVDPTHK 413


RESULT 11
I49471
alpha-1 proteinase inhibitor 2 - mouse (fragment)
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999
C;Accession: I49471
R;Borriello, F.; Krauter, K.S.
Proc. Natl. Acad. Sci. U.S.A. 88, 9417-9421, 1991
A;Title: Multiple murine alpha 1-protease inhibitor genes show unusual evolutionary d
A;Reference number: I49470; MUID:92052104; PMID:1946354
A;Accession: I49471
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-402 <RES>
A;Cross-references: GB:M75716; NID:g191843; PIDN:AAC28865.1; PID:g191844
C;Genetics:
A;Gene: alpha-1 PI-2
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C;Superfamily: antithrombin III

Query Match 49.9%; Score 1334; DB 2; Length 402;
Best Local Similarity 64.6%; Pred. No. 2.1e-79;
Matches 250; Conservative 69; Mismatches 66; Indels 2; Gaps 2;

```
Qy      10 QKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLGT 69
           |:||||  ||  |  ::|  || :|| ||||:| ||||::||||||||||||||||||:
Db      17 QETDTSQKDQS-PASHEIATNLGDFAISLYRELVHQSNTSNIFFSPVSIATAFAMLSLGS 75

Qy      70 KADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLVD 129
           | ||| :||||| |||:  || ||: || ||:|||:|||:|||:||||||::  ||||:
Db      76 KGDTHTQILEGLQFNLTQTSEADIHKSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVE 135

Qy     130 KFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNYI 189
           ||||: |  | :| |:||| ::||||| |||:||||||||||: |||||:|||||| |||
Db     136 KFLEEAKNHYQAEVFSVNFAESEEAKKVINDFVEKGTQGKIVEAVKELDQDTVFALANYI 195

Qy     190 FFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGNA 249
           |||||::||: ::||| :|||| |||||||   || :: ||  |||||||| | |||
Db     196 LFKGKWKKPFDPENTEEAEFHVDKSTTVKVPMMMLSGMLDVHHCSILSSWVLLMDYAGNA 255

Qy     250 TAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLGI 309
           :|:| ||::||:|||  |  ::|:| | |  ||   :|:|:|||:| |:||:::  |||
Db     256 SAVFLLPEDGKMQHLEQTLNKELISKILLNRRRRLVQIHIPRLSISGDYNLKTLMSPLGI 315

Qy     310 TKVFSNGADLSGVTEE-APLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
           |::|:|||||||:||| |||||||||||||||||| ||||| |   ||:|||:|| ::|:
Db     316 TRIFNNGADLSGITEENAPLKLSKAVHKAVLTIDETGTEAAAATVFEAVPMSMPPILRFD 375

Qy     369 KPFVFLMIEQNTKSPLFMGKVVNPTQK 395
           ||:|:: |::|:|||:|:||||:|| |
Db     376 HPFLFIIFEEHTQSPIFVGKVVDPTHK 402
```

RESULT 12
I49452
alpha-1-antitrypsin precursor - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999
C;Accession: I49452
R;Sifers, R.N.; Ledley, F.D.; Reed-Fourquet, L.; Ledbetter, D.H.; Ledbetter, S.A.; Woo,
Genomics 6, 100-104, 1990
A;Title: Complete cDNA sequence and chromosomal localization of mouse alpha-1-antitrypsi
A;Reference number: I49452; MUID:90152670; PMID:2303252
A;Accession: I49452
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-413 <RES>
A;Cross-references: GB:M25529; NID:g191549; PIDN:AAA37132.1; PID:g309079
C;Superfamily: antithrombin III

Query Match 49.8%; Score 1333; DB 2; Length 413;
Best Local Similarity 64.6%; Pred. No. 2.5e-79;
Matches 250; Conservative 69; Mismatches 66; Indels 2; Gaps 2;

```
Qy      10 QKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLGT 69
           |:||||  ||  |  ::|  || :|| ||||:| ||||::||||||||||||||||||:
Db      28 QETDTSQKDQS-PASHEIATNLGDFAISLYRELVHQSNTSNIFFSPVSIATAFAMLSLGS 86

Qy      70 KADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLVD 129
           | ||| :||||| |||:  || ||: || ||:|||:|||:|||:||||||::  ||||:
Db      87 KGDTHTQILEGLQFNLTQTSEADIHKSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVE 146

Qy     130 KFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNYI 189
           ||||: |  | :| |:||| ::||||| |||:||||||||||: |||||:|||||| |||
Db     147 KFLEEAKNHYQAEVFSVNFAESEEAKKVINDFVEKGTQGKIVEAVKELDQDTVFALGNYI 206

Qy     190 FFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGNA 249
           |||||::||: ::||| :|||| |||||||   || :: ||  |||||||| | |||
Db     207 LFKGKWKKPFDPENTEEAEFHVDKSTTVKVPMMTLSGMLDVHHCSTLSSWVLLMDYAGNA 266

Qy     250 TAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLGI 309
           :|:| ||::||:|||  |  ::|:| | |  ||   :|:|:|||:| |:||:::  |||
Db     267 SAVFLLPEDGKMQHLEQTLNKELISKILLNRRRRLVQIHIPRLSISGEYNLKTLMSPLGI 326

Qy     310 TKVFSNGADLSGVTEE-APLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
           |::|:|||||||:||| |||||||||||||||||| ||||| |   ||:|||:|| ::|:
Db     327 TRIFNNGADLSGITEENAPLKLSKAVHKAVLTIDETGTEAAAATVFEAVPMSMPPILRFD 386

Qy     369 KPFVFLMIEQNTKSPLFMGKVVNPTQK 395
           ||:|:: |::|:|||:|:||||:|| |
Db     387 HPFLFIIFEEHTQSPIFVGKVVDPTHK 413
```

RESULT 13
I49472
alpha-1 proteinase inhibitor 3 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999
C;Accession: I49472
R;Borriello, F.; Krauter, K.S.
Proc. Natl. Acad. Sci. U.S.A. 88, 9417-9421, 1991
A;Title: Multiple murine alpha 1-protease inhibitor genes show unusual evolutionary d
A;Reference number: I49470; MUID:92052104; PMID:1946354
A;Accession: I49472
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-413 <RES>
A;Cross-references: GB:M75720; NID:g191845; PIDN:AAC28868.1; PID:g191846
C;Genetics:
A;Gene: alpha-1 PI-3
C;Superfamily: antithrombin III

Query Match 49.7%; Score 1329; DB 2; Length 413;
Best Local Similarity 64.6%; Pred. No. 4.5e-79;
Matches 250; Conservative 68; Mismatches 67; Indels 2; Gaps 2;

```
Qy      10 QKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLGT 69
           |:||||  ||  |  ::|  || :|| ||||:| ||||::||||||||||||||||||:
Db      28 QETDTSQKDQS-PASHEIATNLGDFAISLYRELVHQSNTSNIFFSPVSIATAFAMLSLGS 86

Qy      70 KADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLVD 129
           | ||| :||||| |||:  || ||: || ||:|||:|||:|||:||||||::  ||||:
Db      87 KGDTHTQILEGLQFNLTQTSEADIHKSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVE 146

Qy     130 KFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNYI 189
           ||||: |  | :| |:||| ::||||| |||:||||||||||: |||||:|||||| |||
Db     147 KFLEEAKNHYQAEVFSVNFAESEEAKKVINDFVEKGTQGKIAEAVKKLDQDTVFALANYI 206

Qy     190 FFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGNA 249
           |||||::||: ::||| :|||| |||||||   || :: ||  |||||||| | |||
Db     207 LFKGKWKKPFDPENTEEAEFHVDESTTVKVPMMTLSGMLDVHHCSTLSSWVLLMDYAGNA 266

Qy     250 TAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLGI 309
           ||:| |||:||:|||  |: ::|:|||    || | :| |:|||:| |:||::  |||
Db     267 TAVFLLPDDGKMQHLEQTLSKELISKFLLKRPRRLAQIHFPRLSISGEYNLKTLMSPLGI 326

Qy     310 TKVFSNGADLSGVTEE-APLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
           |::|:|||||||:||| |||||:||||||||:|| |||||  |  | |:| |:|| |:|:
Db     327 TRIFNNGADLSGITEENAPLKLSQAVHKAVLTMDETGTEAAAATVLLAVPYSMPPIVRFD 386

Qy     369 KPFVFLMIEQNTKSPLFMGKVVNPTQK 395
           ||:|:: |::|:||||:||||:|| |
Db     387 HPFLFIIFEEHTQSPLFVGKVVDPTHK 413
```

RESULT 14
JX0267
alpha-1-antiproteinase S-1 precursor - rabbit
C;Species: Oryctolagus cuniculus (domestic rabbit)
C;Date: 31-Dec-1993 #sequence_revision 31-Dec-1993 #text_change 20-Jun-2000
C;Accession: JX0267
R;Saito, A.; Sinohara, H.
J. Biochem. 113, 456-461, 1993
A;Title: Rabbit plasma alpha-1-antiproteinase s-1: cloning, sequencing, expression, a

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A;Reference number: JX0267; MUID:93293795; PMID:8514734
A;Accession: JX0267
A;Molecule type: mRNA
A;Residues: 1-413 <SAI>
A;Cross-references: GB:D16104; NID:g286191; PIDN:BAA03678.1; PID:g303762
A;Experimental source: liver
A;Note: part of this sequence, including the amino end of the mature protein, was confir
C;Superfamily: antithrombin III
C;Keywords: glycoprotein
F;1-24/Domain: signal sequence #status predicted <SIG>
F;25-413/Product: alpha-1-antiproteinase S-1 #status experimental <MAT>
F;65,102,266/Binding site: carbohydrate (Asn) (covalent) #status predicted

  Query Match             49.5%;  Score 1325;  DB 2;  Length 413;
  Best Local Similarity   65.2%;  Pred. No. 8.3e-79;
  Matches  253;  Conservative   58;  Mismatches   77;  Indels    0;  Gaps    0;

Qy       7 DAAQKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLS 66
           | ||:|  | |:|||| ::| |:||||| ||||::||:||:|||||||||||| ||||||
Db      25 DEAQETAVSSHEQDHPACHRIAPSLAEFALSLYREVAHESNTTNIFFSPVSIALAFAMLS 84

Qy      67 LGTKADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLK 126
           || | ||| ::|||| ||||| |||||:||: || |:|:|||:||| || | : | ||
Db      85 LGAKGDTHTQVLEGLKFNLTETAEAQIHDGFRHLLHTVNRPDSELQLAAGNALVVHENLK 144

Qy     127 LVDKFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALV 186
           |  ||||| | || |||| |:| | |:|| :|| :|||||:|||||||:||| |: |||
Db     145 LQHKFLEDAKNLYQSEAFLVDFRDPEQAKTKINSHVEKGTRGKIVDLVQELDARTLLALV 204

Qy     187 NYIFFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYL 246
           ||:|||||||:||| ::|:|||||||  |||:|||| ||||:   ||  |:| || | |
Db     205 NYVFFKGKWEKPFEPENTKEEDFHVDATTTVRVPMMSRLGMYVKFHCSTLASTVLRMDYK 264

Qy     247 GNATAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQ 306
           ||||||:| |||||||||||: || ::| |||     ||  :  |||||:|||||| :||:
Db     265 GNATALFLLPDEGKLQHLEDTLTTELIAKFLAKSSFRSVRVRFPKLSISGTYDLKPLLGK 324

Qy     307 LGITKVFSNGADLSGVTEEAPLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVK 366
           ||||:|||: |||||:||: |||:|:|:|||||||||:||||||| |:  :| |:|  |
Db     325 LGITQVFSDNADLSGITEQEPLKVSQALHKAVLTIDERGTEAAGATFVGIMPSSLPESVI 384

Qy     367 FNKPFVFLMIEQNTKSPLFMGKVVNPTQ 394
           |::||:|::     |||||:||||:|||
Db     385 FDRPFLFVIYSHELKSPLFVGKVVDPTQ 412


RESULT 15
I49473
alpha-1 proteinase inhibitor 4 - mouse
C;Species: Mus musculus (house mouse)
C;Date: 02-Jul-1996 #sequence_revision 02-Jul-1996 #text_change 16-Jul-1999
C;Accession: I49473
R;Borriello, F.; Krauter, K.S.
Proc. Natl. Acad. Sci. U.S.A. 88, 9417-9421, 1991
A;Title: Multiple murine alpha 1-protease inhibitor genes show unusual evolutionary dive
A;Reference number: I49470; MUID:92052104; PMID:1946354
A;Accession: I49473
A;Status: preliminary; translated from GB/EMBL/DDBJ
A;Molecule type: mRNA
A;Residues: 1-413 <RES>
A;Cross-references: GB:M75718; NID:g191847; PIDN:AAC28867.1; PID:g191848
C;Genetics:
A;Gene: alpha-1 PI-4
C;Superfamily: antithrombin III

  Query Match             49.2%;  Score 1316;  DB 2;  Length 413;
  Best Local Similarity   63.8%;  Pred. No. 3.2e-78;
  Matches  247;  Conservative   68;  Mismatches   70;  Indels    2;  Gaps    2;

Qy      10 QKTDTSHHDQDHPTFNKITPNLAEFAFSLYRQLAHQSNSTNIFFSPVSIATAFAMLSLGT 69
           |:|||  ||  |  ::|  || :||  |||:| ||||::||||||||||||||||||:
Db      28 QETDTSQKDQS-PASHEIATNLGDFALRLYRELVHQSNTSNIFFSPVSIATAFAMLSLGS 86

Qy      70 KADTHDEILEGLNFNLTEIPEAQIHEGFQELLRTLNQPDSQLQLTTGNGLFLSEGLKLVD 129
           | ||| :||||| ||||:  || ||: || ||:|||:|||:|||:||||||::  ||||:
Db      87 KGDTHTQILEGLQFNLTQTSEADIHKSFQHLLQTLNRPDSELQLSTGNGLFVNNDLKLVE 146

Qy     130 KFLEDVKKLYHSEAFTVNFGDTEEAKKQINDYVEKGTQGKIVDLVKELDRDTVFALVNYI 189
           ||||: |  | :| |:||| ::||||| |||:||||||||||: ||:||:|||||| |||
Db     147 KFLEEAKNHYQAEVFSVNFAESEEAKKVINDFVEKGTQGKIVEAVKKLDQDTVFALANYI 206

Qy     190 FFKGKWERPFEVKDTEEEDFHVDQVTTVKVPMMKRLGMFNIQHCKKLSSWVLLMKYLGNA 249
           |||||::||: ::||| :||||: |||||||   || :: ||  |||||||| | ||
Db     207 LFKGKWKQPFDPENTEEAEFHVDESTTVKVPMMTLSGMLDVHHCSMLSSWVLLMDYAGNT 266

Qy     250 TAIFFLPDEGKLQHLENELTHDIITKFLENEDRRSASLHLPKLSITGTYDLKSVLGQLGI 309
           ||:| |||:||:|||  |  ::|::|| |  |  | :|:|:|||:| |:||:::  |||
Db     267 TAVFLLPDDGKMQHLEQTLNKELISQFLLNRRRSDAQIHIPRLSISGNYNLKTLMSPLGI 326

Qy     310 TKVFSNGADLSGVTEE-APLKLSKAVHKAVLTIDEKGTEAAGAMFLEAIPMSIPPEVKFN 368
           |::|:|||||||:||| ||||||||||||||||| ||||| |  |:    |:|| |:|:
Db     327 TRIFNNGADLSGITEENAPLKLSKAVHKAVLTIDETGTEAAAATVLQVATYSMPPIVRFD 386

Qy     369 KPFVFLMIEQNTKSPLFMGKVVNPTQK 395
           ||:|:: |::|:||:|:||||:|| |
Db     387 HPFLFIIFEEHTQSPIFVGKVVDPTHK 413


Search completed: November 30, 2002, 12:37:30
Job time : 14.5 secs
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